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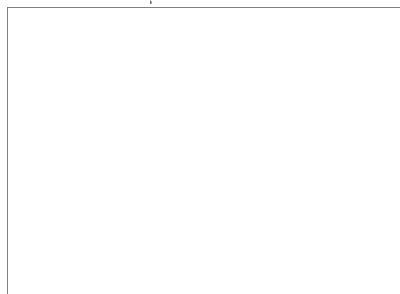
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NATIONAL PHOTOGRAPHIC  
INTERPRETATION CENTER

**PHOTOGRAPHIC  
INTERPRETATION  
REPORT**

**NEWLY IDENTIFIED SOVIET PROBABLE  
AIR WARNING RADAR SYSTEM**



GROUP 1: EXCLUDED FROM  
AUTOMATIC DOWNGRADING  
AND DECLASSIFICATION

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APRIL 1970  
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6 PAGES  
PIR-021/70

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INSTALLATION OR ACTIVITY NAME

Newly Identified Soviet Probable Air Warning Radar System

COUNTRY

UR

UTM COORDINATES

NA

GEOGRAPHIC COORDINATES

See Below

BE NUMBER

See Below

COMIREX NO.

None

NIETB NO.

See Below

MAP REFERENCE

ACIC. US Air Target Charts, Series 200, scale 1:200,000

	NEGATION DATE (if required)
	NA
	NPIC PROJECT
	250654

### ABSTRACT

A new probable air warning radar system deployed along the northern periphery of the USSR has been identified on KEYHOLE photography. Ten facilities in this system have PART TIME radars, probably inside 23-meter- (75-foot-) diameter ribbed radomes, and three facilities have fixed probable communications antennas collocated with TALL KING radars.

This report contains a location map, annotated photographs, propagation azimuths of the probable communications antennas, and reference data for the 13 facilities.

### INTRODUCTION

Ten air warning radar facilities identified photographically along the northern periphery of the USSR since 1964 (Figure 1) subsequently have been designated PART TIME radar facilities. <sup>1,2</sup> A typical PART TIME air warning radar facility contains a radar which is probably inside a ribbed radome measuring 23 meters (75 feet) in diameter. The radar, which has not been observed on KEYHOLE photography, reportedly scans a 344 degree sector. <sup>2</sup> Radar data is transmitted in the remaining 16 degrees to a remote recipient which is possibly a TALL KING air warning radar facility having fixed probable communications antennas collocated with the TALL KING radar. The fixed probable communications antennas are parabolic mesh reflectors measuring 10 meters (33 feet) in diameter, each with a probable horn feed mounted in front on three supporting struts.

Each of the three TALL KING air warning radars in this system has two fixed probable communications antennas. Projection of the propagation azimuths for these antennas pass through areas containing PART TIME radars within the ribbed radomes. When the air warning radar facilities and the propagation azimuths of the fixed antennas are plotted on a map (Figure 1), several triangular patterns are obtained. Two PART TIME radar facilities and one TALL KING air warning radar facility appear to form one triangle. The triangular patterns seen suggest the existence of other similar facilities in the northern USSR which would possibly complete the system; however, the lack of current KEYHOLE photography covering these areas precludes identification of these facilities. Photography provides no clue as to why the Vorkuta-Khalmer-Yu-Abez group does not follow this pattern.

The Kapustin Yar Missile Test Center [ ] contains a similar triangle of the PART TIME ribbed radomes and the fixed probable communications antennas (Figure 1). However, the fixed antennas at Kapustin Yar are 18 meters (60 feet) in diameter instead of 10 meters (33 feet) as found in the deployed northern facilities. The 18-meter-diameter antennas may have been an early prototype system; antennas of this type have not been photographically identified in any deployed air warning radar system.

### BASIC DESCRIPTION

The 13 facilities listed below have been identified in the new probable air warning radar system along the northern periphery of the USSR. A typical PART TIME radar facility is shown in Figure 2, and the fixed probable communications antennas with a collocated TALL KING radar are shown in Figure 3.

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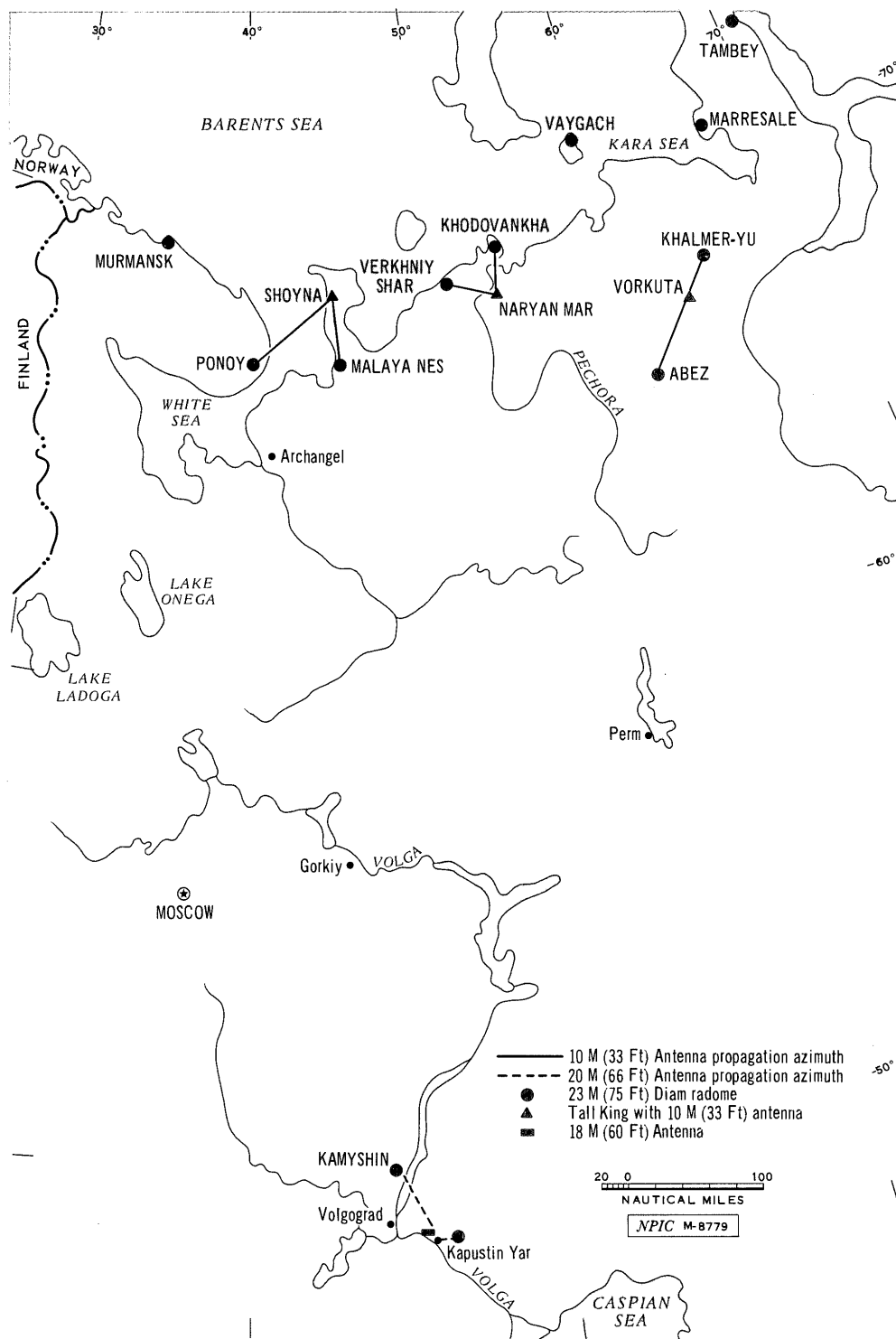


FIGURE 1. LOCATION MAP

## 1. Abez Air Warning Radar Facility

66-32-24N 061-44-31E, [REDACTED]

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The Abez Air Warning Radar Facility is located 1.0 nautical mile (nm) north of Abez, USSR. It consists of a ribbed radome and 16 support buildings. No associated radars or communications antennas are identified.

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2. Khalmer-Yu Air Warning Radar Facility

67-58-29N 064-43-41E

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The Khalmer-Yu Air Warning Radar Facility is located 2.5 nm north of Khalmer-Yu, USSR. It consists of a ribbed radome, three horizontal fuel tanks, and two support buildings. No associated radars or communications antennas are identified.

3. Khodovankha Air Warning Radar Facility

68-56-30N 063-44-00E, BE None

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The Khodovankha Air Warning Radar Facility is located 0.5 nm west of Khodovankha, USSR. The secured facility consists of a ribbed radome, three horizontal fuel tanks, three earth-covered tanks, and three support buildings. No associated radars or communications antennas are identified.

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## 4. Malaya Nes Air Warning Radar Facility

66-36-//N 044-24-//E

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The Malaya Nes Air Warning Radar Facility (Figure 2) is located on the eastern edge of Malaya Nes and consists of a ribbed radome, four support buildings, and two SPOON REST radars. Two possible FORK REST-type very high frequency (VHF) communications antennas are located east of the radome.

## 5. Marresale Air Warning Radar Facility

69-44-//N 066-46-//E,

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The Marresale Air Warning Radar Facility is located 0.5 nm east of Marresale, USSR. It consists of a ribbed radome, three horizontal fuel tanks, and three support buildings. No associated radars or communications antennas are identified.

## 6. Murmansk Air Warning Radar Facility

68-49-30N 033-07-30E, BE None,

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The Murmansk Air Warning Radar Facility is located 8.5 nm south of Murmansk, USSR. It consists of a ribbed radome, three horizontal fuel tanks, and one support building.

The Kildinstroy TALL KING Air Warning Radar Facility is adjacent to the radome and consists of one TALL KING radar, one probable BAR LOCK radar, one probable ROCK CAKE/STONE CAKE radar, and one probable SPOON REST radar. No associated communications antennas are identified.

## 7. Ponoy Air Warning Radar Facility

67-06-30N 041-07-00E,

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The Ponoy Air Warning Radar Facility is adjacent to the Ponoy Airfield and consists of a ribbed radome, three horizontal fuel tanks, and three support buildings. A second air warning radar facility is located 1.0 nm southeast of the ribbed radome and consists of two SPOON REST radars, one BAR LOCK radar, one SIDE NET radar, one SQUAT EYE radar, one FLAT FACE radar, and 16 support buildings.

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Four FORK REST-type VHF communications antennas are located within the support area.

## 8. Tambey Air Warning Radar Facility

71-29-00N 071-46-00E, BE None,

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The Tambey Air Warning Radar Facility is located on the northern edge of Tambey, USSR. It consists of a ribbed radome and three horizontal fuel tanks. No associated radars or communications antennas are identified.

## 9. Vaygach Air Warning Radar Facility

70-26-40N 059-02-30E, BE None,

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The Vaygach Air Warning Radar Facility is located 6.5 nm northeast of Vaygach, USSR. It consists of a ribbed radome, three horizontal fuel tanks, and one support building. No associated radars or communications antennas are identified.

## 10. Verkhniy Shar Air Warning Radar Facility

68-19-00N 050-52-00E,

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The Verkhniy Shar Air Warning Radar Facility is located 1.0 nm northeast of Verkhniy Shar, USSR. It consists of a ribbed radome, three horizontal fuel tanks, and six support buildings. No associated radars or communications antennas are identified.

## 11. Naryan Mar Troposcatter Facility

67-39-00N 053-09-00E, BE None,

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The Naryan Mar Troposcatter Facility is located 3 nm northeast of Naryan Mar, USSR. It consists of two 10-meter-(33-foot-) diameter parabolic antennas and two control/support buildings. The antennas have propagation azimuths of 11 and 308 degrees with probable correspondents of Khodovankha and Verkhniy Shar, respectively.

The Naryan Mar TALL KING Air Warning Radar Facility is collocated with the troposcatter facility and consists of one TALL KING radar, one BAR LOCK radar, one SPOON REST radar, one SIDE NET radar, and 25 support buildings.

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Four FORK REST-type VHF antennas and two horizontal dipole antennas are within the support area of the TALL KING facility.

12. Shoyna Troposcatter Facility

67-51-00N 044-09-30E, BE None, [REDACTED]

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The Shoyna Troposcatter Facility is located 1.5 nm south of Shoyna, USSR. It consists of two 10-meter- (33-foot-) diameter parabolic antennas and two control/support buildings. The antennas have propagation azimuths [REDACTED] with probable correspondents of Malaya Nes and Ponoy, respectively.

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The Kiya TALL KING Air Warning Radar Facility [REDACTED] is collocated with the troposcatter facility and consists of one TALL KING radar, one SPOON REST radar, one SIDE NET radar, and 20 support buildings (Figure 3).

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Six FORK REST-type VHF antennas and four horizontal dipole antennas are within the support area of the TALL KING facility.

13. Vorkuta Troposcatter Facility

67-32-00N 064-08-30E, BE None, [REDACTED]

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The Vorkuta Troposcatter Facility is located 3.2 nm northeast of Vorkuta, USSR. It consists of two 10-meter- (33-foot-) diameter parabolic antennas and two control/support buildings. The antennas have propagation azimuths of 25 and 225 degrees with probable correspondents of Khalmer-Yu and Abez, respectively.

The Vorkuta TALL KING Air Warning Radar Facility [REDACTED] is collocated with the troposcatter facility and consists of one TALL KING radar, one BAR LOCK radar, one ROCK CAKE/STONE CAKE radar, one SIDE NET radar, and 12 support buildings.

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Four FORK REST-type VHF communications antennas are within the support area of the TALL KING facility.

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MAPS AND CHARTS

ACIC. US Air Target Charts, Series 200, scale 1:200,000

DOCUMENTS

1. NPIC: [REDACTED] *White Sea Test Range Tracking Facilities, USSR, Sep 67 (TOP SECRET RUFF)*
2. Scientific Intelligence Committee Electronics Subcommittee. SC-09695-7, *Minutes of the 117th Meeting, Jan 70 (TOP SECRET [REDACTED])*

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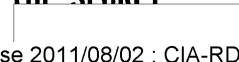
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